

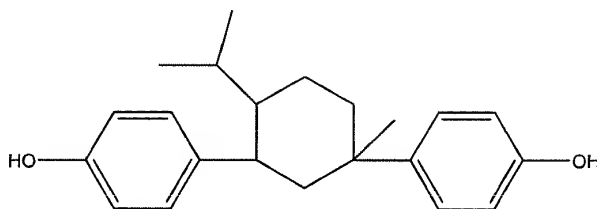
REMARKS

Claims 1-14, 16-33, 35-42, and 44-45 are pending in the present Application. No claims have been amended, added, or cancelled, leaving Claims 1-14, 16-33, 35-42, and 44-45 for consideration upon entry of the present Response. Reconsideration and allowance of the claims are respectfully requested in view of the following remarks.

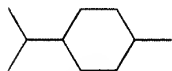
Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 23, 26, 33, and 38 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner asserted that the “1,3-bis(4-hydroxyphenyl)menthane” in Claims 23, 26, 33, and 38 is misspelled and should be changed to “1,3-bis(4-hydroxyphenyl)methane” (Office Action dated 7/7/06, page 2). Applicants respectfully traverse this rejection.

Applicants respectfully submit that it is well known in the art that the chemical name of 1,3-bis(4-hydroxyphenyl)menthane corresponds to the following chemical structure:



which contains a menthane unit as illustrated by the following structure:



menthane . The claims directed to polycarbonate derived from 1,3-bis(4-hydroxyphenyl)menthane find support in at least paragraph [0082] of the Specification as originally filed, which further describe polycarbonate containing menthane units.

Therefore, Applicants respectfully request reconsideration and removal of the rejections under § 112, second paragraph, over Claims 23, 26, 33, and 38 as there is no misspelling in these claims.

Claim Rejections Under 35 U.S.C. § 103(a)

Claim 42 stands rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Barzynski, et al. US 4,889,756 (hereinafter “Barzynski”) in view of Maus et al. US 4,965,028 (hereinafter “Maus”). Applicants respectfully traverse this rejection.

Barzynski generally discloses a laser-optical recording material comprising (a) an optically transparent and isotropic, homogeneous substrate which is free of orientation birefringence and (b) one or more amorphous, thermally alterable recording layers (abstract). (Col. 4, Lines 19-66.)

Maus generally discloses thermoplastic runnerless multiple-gated multiple-cavity and multiple-gated single cavity injection or injection/compression molding apparatus and methods to form optical lenses and disks, large auto windows and panels, and computer hard-disk substrate moldings (Col. 1, Lines 9-18).

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Instant Claim 42 is not obvious over Barzynski in view of Maus as these two references fail to disclose all elements of the claim. In particular, neither Barzynski nor Maus teaches or suggests the substrate wherein the blend is substantially free of visible particulate impurities as is required by Claim 42.

Low particulate concentration is desirable for an aesthetically pleasing product and to provide sufficient surface quality to maintain read accuracy, data storage, and replication (Application, Paragraph [0005]). Particulate impurities such as gels and black specks at the surface of the molded substrate may interfere with the surface quality of the land and groove pattern and this is especially true as the land and groove patterns are reduced in size to smaller

tracking pitches, groove depths, and widths to accommodate higher areal density (Application, Paragraph [0021]). As used in the instant application, the term “substantially free of visible particulate impurities” means that a ten gram sample of a polymeric material dissolved in fifty milliliters of chloroform (CHCl_3) exhibits fewer than 5 visible specks when viewed with the aid of a light box. Particles visible to the naked eye are typically those greater than 40 micrometers in diameter (Application, Paragraph [0041]).

Instant Claim 42 requires that the substrate blend is substantially free of visible particulate impurities. Thus, the substrate blend of Claim 42 is substantially free of particles greater than about 40 micrometers. The removal of particulate impurities of the instant invention is generally achieved by melt filtering polymer melts and/or filtering polymer solutions using filter-based filtration systems (Application, Paragraph [0040]).

In contrast, Barzynski does not in any way discuss a limitation on the amount of particulate impurities in the substrate blend or the molded substrate, let alone the specific requirement of Claim 42. Maus also fails to teach or suggest the claimed reduced levels of particulate impurities in the substrate blend or the molded substrate. The Examiner asserted that Maus teaches the use of injection molding to form optical lenses and discs and the use of melt conditioning such as melt filtering during the injection molding process (Office Action dated 7/7/06, page 3). However, although melt filtering is taught by Maus, the reference still fails to teach or suggest the required claim limitation that the blend is substantially free of visible particulate impurities. The only teaching in Maus regarding the size of the particles that can be filtered is via the disclosure of the clearance dimension of the particular filter. Some specific clearance dimensions taught by Maus are 0.010-0.050” (254 – 1,270 micrometers) (Col. 14, lines 42 – 44) and 0.020 – 0.040” (508 – 1,016 micrometers) (Col. 14, lines 10 – 15), which are significantly larger than the 40 micrometer limitation of claim 42. Accordingly, Maus teaches that particles smaller than 254 micrometers, yet much larger than 40 micrometers, are passed through the systems disclosed in the reference.

As Maus does not discuss or suggest removing visible particles less than 254 micrometers in diameter, let alone those greater than about 40 micrometers in diameter, the melt filtration method taught by Maus would not have produced the particular blend substantially free of visible

particulate impurities of Claim 42 as particles up to about 250 micrometers can pass the melt filtering in Maus.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejection over Claim 42 as Barzynski and Maus fail to teach or suggest the element regarding the limited amount of visible particulate impurities in the blend of the instant Claim 42.

Claim 42 stands rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Niwano et al. US 4,845,142 (hereinafter “Niwano”) in view of Maus. Applicants respectfully traverse this rejection.

Niwano generally discloses optical devices such as optical disk substrates and lenses which are prepared by molding a resin composition (abstract). However, Niwano fails to disclose the particular substrate wherein the blend is substantially free of visible particulate impurities of the instant Claim 42. In particular, Niwano fails to disclose a filtration method to remove particulate impurities.

As presented above, Maus fails to cure this deficiency as Maus also does not teach or suggest a filtration system to remove particulate impurities greater than about 40 but less than about 250 micrometers in diameter. The melt filtration method taught by Maus would not produce the particular substrate of the instant Claim 42 as particles up to about 250 micrometers in diameter can pass the filtration.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejection over Claim 42 as Niwano and Maus fail to teach or suggest the element regarding the limited amount of visible particulate impurities in the substrate of the instant Claim 42.

Claims 1-3, 5-9, 13, 14, and 16-18 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Nishikawa et al. WO 02/086882 (US2004/0076083 English Equivalent) (hereinafter “Nishikawa”). Applicants respectfully traverse this rejection.

Claims 1-3, 5-9, 13, 14, and 16-18 are not obvious over Niwano in view of Nishikawa as there was no suggestion by either reference to combine the two references to arrive at the instant claims.

The Examiner asserted that it would have been obvious to modify Niwano by using other grooves with smaller pitches of Nishikawa and/or to modify Nishikawa by using the substrate material of Niwano with a reasonable expectation of forming a useful optical recording medium (Office Action dated 7/7/2006, first paragraph on page 5). The Examiner further asserted that both references are from the optical recording art and use magneto-optical recording layers (Office Action dated 7/7/2006, second paragraph on page 5). Applicants respectfully asserts that there is no suggestion in either reference to combine the two references or modify the teachings of the references.

Niwano discloses a disk substrate of polymer composed of aromatic vinyl monomer, poly(phenylene ether) resins, and an organic acid having lands and grooves wherein the lands and grooves comprise a pitch of about 1.6 micrometers (Niwano, Col. 8, lines 1-16). However, Niwano does not disclose lands and grooves comprising a pitch of about 0.05 to 0.7 micrometer required by instant Claim 1. Moreover, there is no suggestion in Niwano that a disk substrate of aromatic vinyl monomer, poly(phenylene ether) resins, and an organic acid with a reduced pitch size (smaller than about 1.6 micrometers) is more desirable.

Nishikawa discloses a magneto-optical recording medium comprising a polycarbonate substrate having lands and grooves and wherein the lands and grooves comprise a pitch of about 0.54 micrometer (Nishikawa, paragraphs [0166] to [0167]). However, Nishikawa does not teach or suggest a substrate comprising any other polymer, only polycarbonate. Additionally, this reference does not teach or suggest that a different substrate material would be applicable at such exacting substrate dimensions.

Accordingly, there was no suggestion in either reference to combine the substrate material comprising the aromatic vinyl monomer, poly(phenylene ether) resins, and an organic acid of Niwano with the reduced pitch of about 0.54 micrometer of Nishikawa to arrive at the instant Claim 1. For an obviousness-based rejection to stand, the cited references must provide some suggestion or motivation to combine the references to arrive at the instant claims. There was simply no suggestion to make such a combination by either reference. Although such a combination was possible in hindsight, Applicants respectfully point out that the Examiner's assertion that it would have been obvious to combine Niwano and Nishikawa to form "a useful

optical recording medium” is using the instant disclosure rather than the cited references as the motivation or suggestion.

Moreover, there would have been no reasonable expectation of success of combining the two references to arrive at the instant claims. Polycarbonate of Nishikawa and the substrate material comprising aromatic vinyl monomer, poly(phenylene ether) resins, and an organic acid of Niwano have very different physical, mechanical, and processing properties. Even though Nishikawa’s polycarbonate has been prepared into disk substrates having reduced pitch size, such a result does not provide motivation, suggestion, or expectation of success to prepare other polymeric materials into disk substrates having the same pitch requirement, especially for disk substrates requiring exacting requirements of narrow pitch size. Accordingly, based on the two references, an artisan would only be motivated to use polycarbonate if small pitch sizes were desirable. In the alternative, the artisan would not have any expectation that any other polymer besides polycarbonate would be successfully applied to very narrow pitch between the lands and grooves. Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections over Claims 1-3, 5-9, 13, 14, and 16-18 as it would not have been obvious for a skilled artisan to combine or modify Niwano and Nishikawa to arrive at the instant claims.

Claims 1-3, 5-14, 16-18, and 42 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Nishikawa, further in view of Maus. Applicants respectfully traverse this rejection.

As presented above, Claims 1-3, 5-14, and 16-18 are not obvious over Niwano in view of Nishikawa as there was no suggestion or reasonable expectation of success to combine the two references to arrive at the instant claims. Maus does not cure this deficiency as this reference does not in any way suggest combining the substrate material comprising the aromatic vinyl monomer, poly(phenylene ether) resins, and an organic acid of Niwano with the pitch of about 0.54 micrometer of Nishikawa to arrive at the instant claims.

In terms of Claim 42, it has not been rendered obvious over Niwano and Nishikawa, further in view of Maus as these three references fail to teach or suggest the element regarding particulate impurities in the blend as required by instant Claim 42. Both Niwano and Nishikawa

fail to discuss in any way removing particulate impurities in the substrate blend or the molded substrate, let alone the specific requirement of Claim 42 that the blend is substantially free of visible particulate impurities. As presented above, Maus also does not teach or suggest this particular element.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections over Claims 1-3, 5-14, 16-18, and 42.

Claims 1-9, 13-14, 16-21, 27-30, and 44 stand rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Niwano and Ohgo US 2003/0113671 (hereinafter “Ohgo”). Applicants respectfully traverse this rejection.

Ohgo generally discloses a manufacturing method for an optical disc master, in which a photoresist layer is formed on a substrate, and then a laser beam having a wavelength of 200 to 300 nm is exposed to the photoresist layer to form thereon a latent image corresponding to an information signal, and then the latent image is developed with an alkaline aqueous solution to form a convex-concave pattern (abstract). In particular, Ohgo discloses a substrate material of polycarbonate and acrylic resin, and an optical disc master having a continuous groove having a track pitch of 0.32 micrometer (Ohgo, paragraphs [0012], [0068]). However, Ohgo does not disclose a substrate layer comprising poly(arylene ether)/poly(alkenyl aromatic) blends.

The Examiner alleged that it would have been obvious to combine Niwano and Ohgo by using the substrate material of Niwano and the pitch size of Ohgo (Office Action dated 7/7/2006, pages 6-7). Applicants respectfully point out that the arguments made previously in response to the rejections in view of Niwano and Nishikawa are applicable here as Ohgo only discloses polycarbonate and acrylic resin as substrate materials. No suggestion is made to use other materials, such as those used by Niwano. For reasons presented above, it would not have been obvious for a skilled artisan to combine Niwano and Ohgo to arrive at the instant independent Claims 1 or 44. For reasons presented above, there was also no reasonable expectation of success of combining the two references to arrive at the instant claims as Ohgo only teaches polycarbonate and acrylic resin as suitable material for achieving a substrate having a narrow

track pitch. Such exacting dimensions were not necessarily known to be achievable using other polymer resins.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections over Claims 1-9, 13-14, 16-21, 27-30, and 44.

Claims 1-3, 5-14, 16-21, 27-30, 42, and 44-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Ohgo, in view of Maus. Applicants respectfully traverse this rejection.

Claims 1-3, 5-14, 16-21, 27-30, and 44-45 are not obvious over Niwano and Ohgo, further in view of Maus as there was no suggestion or motivation to combine the substrate material of Niwano with the reduced pitch size of Ohgo to arrive at the instant claims. As presented above, Niwano and Ohgo fail to provide the necessary suggestion or motivation to combine the two references as there was no expectation that any other material besides Ohgo's polycarbonate/acrylic resin would be suitable to prepare a substrate having such exacting pitch dimensions. Maus also fails to provide any suggestion or motivation to combine the references to arrive at the instant claims as it fails to suggest using the dimensions of Ohgo with other polymeric resin.

In terms of Claim 42, it has not been rendered obvious over the three references as none of the three teaches or suggests the element regarding particulate impurities in the substrate of the instant Claim 42. Niwano and Ohgo simply do not discuss or suggest removing particulate impurities in the substrate blend or the molded substrate, let alone the specific requirement of Claim 42. As presented above, although Maus teaches the use of melt conditioning such as melt filtering during the injection molding process, the melt filtering taught by Maus would not have produced the substrate blend substantially free of visible particulate impurities as required by Claim 42.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejection over Claims 1-3, 5-14, 16-21, 27-30, 42, and 44-45.

Claims 1-14, 16-21, 25, 27-31, 38-41, and 44 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Ohgo, in view of Saito et al. US 2003/0003261 (hereinafter “Saito”). Applicants respectfully traverse this rejection.

Saito generally discloses an optical recording medium including a substrate having successively disposed thereon a light-reflecting layer, a recording layer and a cover layer (abstract). However, Saito does not disclose the use of the poly(arylene ether)/poly(alkenyl aromatic) blend.

For reasons presented above, it would not have been obvious for a skilled artisan to combine Niwano and Ohgo to arrive at the instant Claim 1, 38, or 44. There was no motivation to combine Niwano and Ohgo as Ohgo teaches the use of polycarbonate and acrylic resin, but in no way suggests the use of the polystyrene/poly(phenylene ether) blends of Niwano.

Saito does not cure the above deficiency since Saito also teaches the use of polycarbonate and other resins that are not polystyrene/poly(phenylene ether) mixtures. Saito fails to suggest the use of the polystyrene/poly(phenylene ether) blends of Niwano having a small pitch requirement. Thus a skilled artisan would not have been motivated to combine Niwano with either Ohgo or Saito to render obvious independent Claims 1, 38, and 44 and their dependent claims. Furthermore, there would be no expectation that using the poly(arylene ether)/poly(alkenyl aromatic) blends would be suitable for the exacting dimensions of pitch size shown for polycarbonate/acrylic resin.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections over 1-14, 16-21, 25, 27-31, 38-41, and 44.

Claims 1-14, 16-21, 25, 27-31, 33, and 35-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Ohgo, in view of Saito, further in view of Maus. Applicants respectfully traverse this rejection.

As presented above, Claims 1-14, 16-21, 25, 27-31, 33, 35-41, and 44-45 are not obvious over Niwano with either Ohgo or Saito as these references do not provide suggestions to combine them to arrive at the instant claims or even whether the use of poly(arylene ether)/poly(alkenyl aromatic) blends would be successful for substrates having exacting pitch sizes as only illustrated

by polycarbonate/acrylic resin. Maus also fails to provide any suggestion. Thus, Claims 1-14, 16-21, 25, 27-31, 33, 35-41, and 44-45 are not obvious over Niwano, Ohgo, and Saito, further in view of Maus.

As presented above, Claim 42 is not obvious over Niwano, Ohgo, and Saito, further in view of Maus as all these references fail to teach or suggest the element regarding the reduced amounts of particulate impurities in the blend required by the instant claim.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections over 1-14, 16-21, 25, 27-31, 33, and 35-45.

Claims 1-14, 16-31, 33, 35-42, and 44-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Ohgo, in view of Saito and Maus, further in view of Ueda et al. JP 2000-315891 (hereinafter the “Ueda”) and Ogawa et al. US 2001/0039313 (hereinafter the “Ogawa”). Applicants respectfully traverse this rejection.

Ueda discloses that polystyrene glycol and polycarbonate mixtures are useful for optical recording media substrates. However, this reference does not disclose the use of the poly(arylene ether)/poly(alkenyl aromatic) blend as substrates.

Ogawa generally discloses a polycarbonate resin and its use for optical articles such as optical discs ([0002]). However, this reference also does not disclose the use of the poly(arylene ether)/poly(alkenyl aromatic) blend as substrates.

Thus Ueda and Ogawa fail to cure the deficiencies of Niwano, Ohgo, Saito, and Maus as these two additional references also fail to provide suggestion or motivation to use the poly(arylene ether)/poly(alkenyl aromatic) blend to make media substrates with smaller pitches. The new references also fail to teach or suggest a substrate that is substantially free of visible particulate impurities. Finally, they fail to teach or suggest a data storage medium exhibiting a radial tilt change value after 96 hours at 80°C of less than or equal to 0.35 degree at a radius of 55 millimeters. Thus, instant claims have not been rendered obvious over Niwano, Ohgo, Saito, Maus, Ueda, and Ogawa.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections over Claims 1-14, 16-31, 33, 35-42, and 44-45.

Claims 1-14, 16-33, 35-42, 44-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Ohgo, in view of Saito and Maus, further in view of Ueda and Ogawa, further in view of Mino et al. US 2002/0176957 (hereinafter “Mino”), or Dris et al. WO 03/021588 (hereinafter “the “Dris”). Applicants respectfully traverse this rejection.

Mino generally discloses an optical information recording medium including a reflective film, a recording film and a protective film on a substrate (abstract). Mino discloses smaller pitch size, but fails to disclose the use of the poly(arylene ether)/poly(alkenyl aromatic) blend as substrate material.

Dris generally discloses a storage medium for data with improved dimensional stability. Dris does disclose the use of the poly(arylene ether) and alkenyl aromatic polymers as media substrates. However, no particular pitch requirements are disclosed.

Thus Mino and Dris fail to cure the deficiencies of Niwano, Ohgo, Saito, and Maus as these two additional references also fail to provide suggestion or motivation to use the blend of poly(arylene ether) resin and poly(alkenyl aromatic) resin to make media substrates with smaller pitch sizes. The additional references also fail to teach or suggest each and every limitation of independent Claims 33 and 42, that is a blend of poly(arylene ether) and poly(alkenyl aromatic) which is substantially free of visible particulate impurities. Thus, instant claims are not obvious over Niwano, Ohgo, Saito, Maus, Mino, and Dris.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections.

Claim 42 stands rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Feist et al. US 2002/0094455 (hereinafter the “Feist”). Applicants respectfully traverse this rejection.

Feist generally discloses a storage media comprising a substrate comprising at least one plastic resin portion, wherein the plastic resin portion comprises poly(arylene ether) and a styrene material selected from the group consisting of polystyrene, styrenic copolymer(s), and reaction products and combinations comprising at least one of the foregoing styrene material(s), and at least one data layer on the substrate (abstract).

Feist does not render amended Claim 42 obvious as this reference fails to teach all elements of the instant claim. In particular, Feist fails to disclose the element regarding that the blend be substantially free of visible particulate impurities as is required by instant Claim 42. Feist only discloses the use of melt filtering and/or a screen pack to remove undesirable contaminants or decomposition products (paragraph [0036]). It does not discuss in any way the level of visible particulate impurities in the substrate blend, let alone any filtration system of removing particulate impurities to get the substrate blend that is substantially free of visible particulate impurities as required by Claim 42. A general teaching of the use of melt filtering and/or a screen pack would not motivate a skilled artisan to remove particulate impurities to the level of substantially free of visible particulate impurities. Thus instant Claim 42 is not obvious over Feist.

Claims 1-21, 27-30, 42, and 44-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Feist and Ohgo. Applicants respectfully traverse this rejection.

Feist and Ohgo fail to provide motivation to combine the two references to arrive at the instant claim. Feist discloses a substrate material comprising poly(arylene ether) and a styrene material and a pitch of 0.8 micrometer (Feist, paragraph [0049]). However, this reference does not disclose or suggest pitch sizes of 0.05 to 0.7 micrometer of the instant claim. Ohgo teaches polycarbonate and acrylic resin as disk substrate material, but not the blend of poly(arylene ether) and styrene resin.

For reasons presented above, polycarbonate and the blend of poly(arylene ether) and styrene resin are different polymeric materials with different physical properties and processing properties. Neither reference provides suggestion or motivation to combine the two references to arrive at the instant claims. There is no expectation that blends of poly(arylene ether) and styrene would be successfully applied as a substrate having the exacting physical dimensions shown with polycarbonate. Thus 1-14, 16-21, 27-30, and 44-45 are not obvious over Feist and Ohgo.

In terms of Claim 42, it is not obvious over Feist and Ohgo as these references, either alone or in combination, fail to teach or suggest the limitation regarding reduced particulate

impurities in the blend of the instant Claim 42. Reconsideration and removal of the rejections are respectfully requested.

Claims 1-14, 16-21, 25, 27-31, 33, 35-42, and 44-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Feist and Ohgo, further in view of Saito. Applicants respectfully traverse this rejection.

As presented above, there was no motivation to combine Feist and Ohgo with regard to the substrate material as polycarbonate and acrylic resin are different polymeric materials with respect to the blend of poly(arylene ether) and styrene resin, having different chemical and physical properties. There is no suggestion that these materials are substitutable when it comes to substrates requiring a small pitch. Saito also fails to provide suggestion or motivation to use the blend of poly(arylene ether) and styrene resin as substrate with smaller pitches.

Furthermore, none of the references teach or suggest the material of independent Claims 33 and 42 which are substantially free of visible particulate impurities. Thus, Claims 1-14, 16-21, 25, 27-31, 33, 35-42, and 44-45 are not obvious over Feist, Ohgo and Saito.

Claims 1-21, 27-30, and 42-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Hay et al. US 2002/0197438 (hereinafter the “Hay”) and Ohgo, in view of Maus. Applicants respectfully traverse this rejection.

Hay generally discloses a storage media having a radial deviation of less than or equal to about 1.15 degrees at a radius of 55 mm. However, this reference does not disclose substrates having a pitch size of 0.05 to 0.7 micrometer. Although Ohgo teaches small pitch sizes, it teaches the use of polycarbonate and acrylic resin as substrate material, not the blend of poly(arylene ether) and styrene resin.

For reasons presented above, there would have been no motivation to combine the references as polycarbonate and acrylic resin are different polymers from the blend of poly(arylene ether) and styrene. They have different properties and there would have been no reasonable expectation of success to combine the references as there is no suggestion that the substrate materials are substitutable, especially with regard to the need for narrow pitch sizes.

Additionally, none of the references teaches or suggests the requirement of the substrate material being substantially free of visible particulate impurities.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections.

Double Patenting Rejections

Claims 1-14, 16-21, 27-30, 42, and 44-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-32 of copending Application No. 10/648540 (US 2005/0046056). No claims are currently allowed in this case.

Claims 1-14, 16-21, 27-30, 42, and 44-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 of copending Application No. 10/648604 (US 2005/0046070). No claims are currently allowed in this case.

Claims 1-14, 16-21, 27-30, 42, and 44-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-49 of copending Application No. 11/151494 (US 2005/0233151). No claims are currently allowed in this case.

Claims 1-14, 16-21, 27-30, 42, and 44-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-37 of copending Application No. 10/063004 (US 2002/0094455). No claims are currently allowed in this case.

Claims 1-14, 16-21, 27-30, 42, and 44-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/986611 (US 2005/0129953). No claims are currently allowed in this case.

Claims 1-14, 16-21, 27-30, 42, and 44-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-81 of

copending Application No. 11/101883 (US 2005/0180284; hereinafter “the ’284 Application”). No claims are currently allowed in this case.

Applicants respectfully request that the Examiner withdraw all of the above provisional obviousness-type double patenting rejections until the claims are in final form and condition for allowance; until such time, there is no way to determine whether a double patenting issue exists for pending, unallowed claims. MPEP § 804.01.I(B)(1).

Claims 1-14, 16-21, 27-30, 42, and 44-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 7-16, 18-24, and 26-62 of copending Application No. 10/648640 (US 2005/0049362) (hereinafter “the ‘640 application”) in view of Feist and Ohgo. The ‘640 application has issued into U.S. Patent No. 7,041,780. Applicants respectfully traverse this rejection.

Claims 1-3, 7-16, 18-24, and 26-60 of the ‘640 are directed to a method of preparing a polymeric mixture of a poly(arylene ether) and a poly(alkenyl aromatic). Claims 61 and 62 of the ‘640 application are directed to an article and a data storage medium comprising the polymeric mixture of poly(arylene ether) and a poly(alkenyl aromatic). Arguably, the closest claims of the ‘640 application to the present claims are Claims 61 and 62. Neither claim teaches or suggests the particular pitch required by independent Claims 1 and 44. Independent Claim 42 of the instant application is directed to a data storage medium where the data layer can be read using a laser with a particular wavelength and a lens having a particular aperture. None of the claims of the ‘640 application teaches or suggests these requirements.

The combination of the ‘640 application and Feist and Ohgo also do not render obvious the claims as previously discussed above. The additional teaching of the claims of the ‘640 patent does not remedy the lack of suggestion or motivation to combine the references. Ohgo teaches polycarbonate and acrylic resin as disk substrate material, but not the blend of poly(arylene ether) and styrene resin. Feist discloses a substrate material comprising poly(arylene ether) and a styrene material having a pitch of 0.8 micrometer (Feist, paragraph [0049]). Although smaller pitch sizes are taught by Ohgo for polycarbonate and acrylic resin substrates, there is no suggestion or motivation to use the material of Feist or the ‘640 application

with such exacting pitch sizes shown with polycarbonate. Accordingly, the Applicants respectfully request reconsideration and removal of the double patenting rejection over independent claims 1, 42, and 44 and their dependent claims. Accordingly, reconsideration and removal of the obviousness type double patenting rejections are requested.

Claims 1-14, 16-21, 27-30, 42, and 44-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-49 of copending Application No. 10/648647 (US 2005/0049333) (hereinafter “the ‘647 application”) in view of Feist and Ohgo. Applicants respectfully traverse this rejection.

Allowed Claims 1-45 of the ‘647 application are directed to *methods* of preparing a polymeric material. The claims of the instant application have not been rendered obvious in view of the method claims of the ‘647 application. Particularly, Feist and Ohgo, as previously discussed, do not render the claims obvious. The ‘647 method claims do not provide the additional teaching or suggestion of the required pitch or requisite motivation to combine or modify these references to use the material of Feist in a disk substrate having the particular pitch requirements of Ohgo.

Claims 46-49 of the ‘647 application are directed to articles including a data storage medium. These claims are not allowed. Therefore, the Applicants respectfully request removal of the provisional obviousness type double patenting rejections in view of these currently pending, yet not allowed claims.

Accordingly, reconsideration and removal of the obviousness type double patenting rejections are requested.

Claims 1-14, 16-21, 27-30, 42, and 44-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/922194 (US 2005/0064129) (hereinafter “the ‘194 application”) in view of Feist and Ohgo. Applicants respectfully traverse this rejection.

Allowed Claims 1-15 of the ‘194 application are directed to a filtered polymeric composition, methods of preparing a polymeric material, and data storage media having reduced

levels of particulate impurities. None of the claims teaches or suggests the particular pitch required by independent Claims 1 and 44. Independent Claim 42 of the instant application is directed to a data storage medium where the data layer can be read using a laser with a particular wavelength and a lens having a particular aperture. None of the claims of the '194 application teaches or suggests these requirements.

The claims of the instant application have not been rendered obvious in view of the composition and method claims of the '194 application. Particularly, Feist and Ohgo, as previously discussed, do not render the claims obvious. The '647 method claims do not provide the additional teaching or suggestion of the required pitch or requisite motivation to combine or modify these references to use the material of Feist in a disk substrate having the particular pitch requirements of Ohgo.

Accordingly, reconsideration and removal of the obviousness type double patenting rejections are requested.

It is believed that the foregoing remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Response or otherwise, please charge them to Deposit Account No. 50-1131.

Respectfully submitted,

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